

# USTAR Program Recommendations

*May 2015*



**Science • Technology • Innovation • Economic Development**

# Agenda

- Introduction and Study Overview
- Assessment/Findings
- Draft Recommendations

# About SRI's

## Center for Science, Technology & Economic Development

- Evaluation: Economic impact of technology commercialization and financing programs for states and Federal government agencies
- Advice: How to leverage S&T investments and university-industry to achieve commercialization and economic outcomes
- Independent, objective, informed perspective



# USTAR Study



## Objective:

- Independent review of current USTAR program against objectives
- Benchmark against other programs
- Deliver assessment and preliminary recommendations
- Next phase is final program recommendations and metrics

## What we did:

- USTAR current state assessment
  - 50+ stakeholder interviews (legislators, university administrators, USTAR faculty, TOIP personnel, others)
- Utah innovation system gap analysis
- Best practices study

# Utah innovation system gap analysis

Category	Common challenge	Utah
Research capacity	University R&D	++
	Business R&D	+
Industry-university linkages	Information gaps & networks	-
Entrepreneurial culture	Risk aversion	++
Managerial talent	Serial entrepreneurs	-
	Sector specific knowledge	-
Risk capital	Pre-seed/seed	-
	Venture capital firms	+/-

University R&D/  
GDP 2012

**1<sup>st</sup>** quartile

Source: NSF

Total VC Investment  
Dollars 2014

**9<sup>th</sup>** (\$783.2M)

Source: NVCA

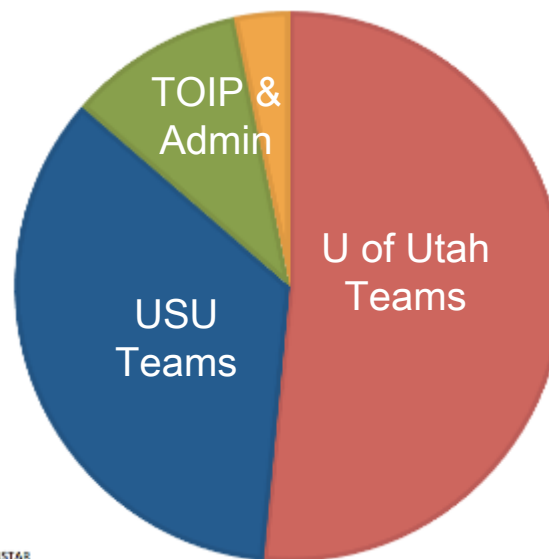
Business R&D/  
industry output 2012

**2<sup>nd</sup>** quartile

Source: NSF

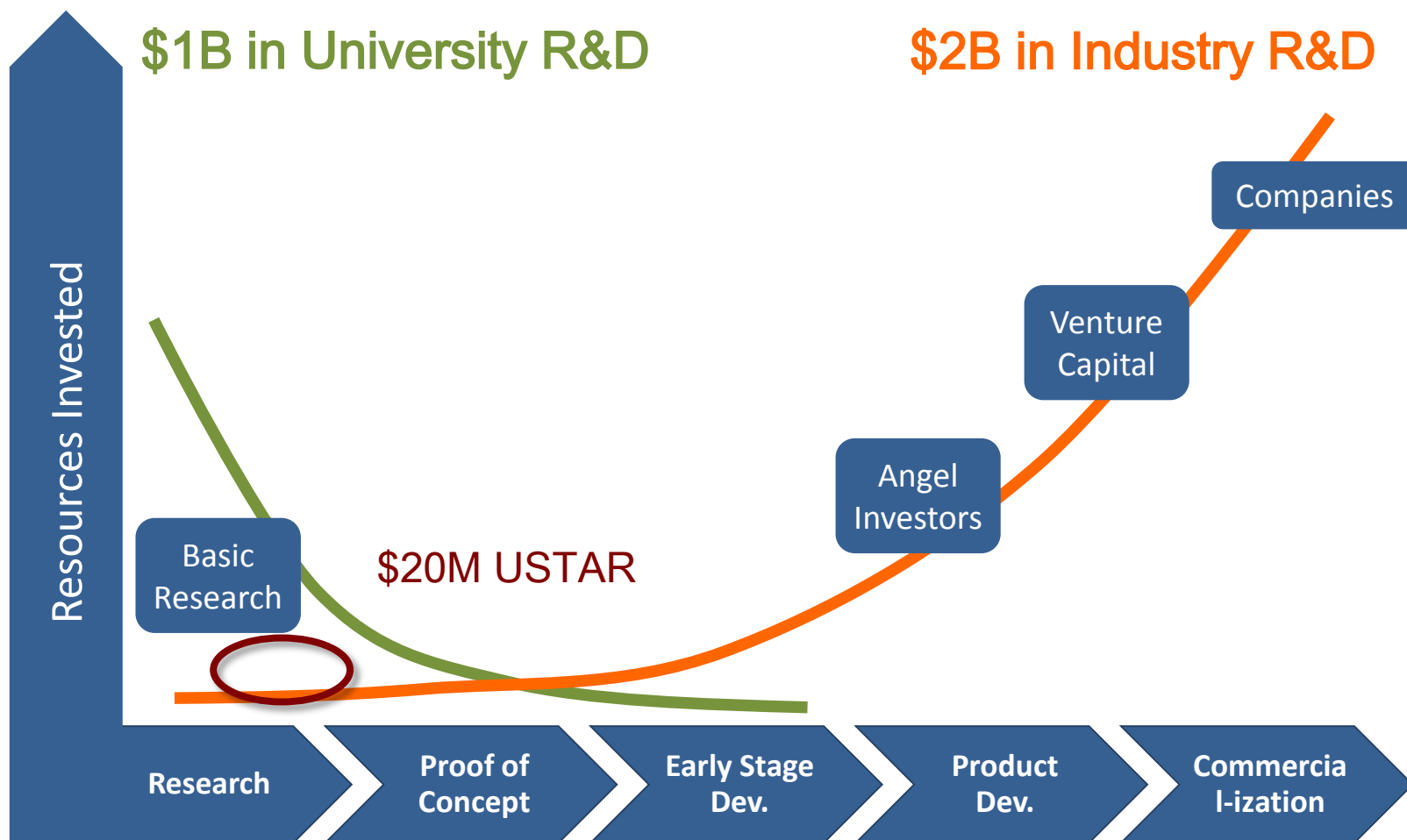
# Assessment Highlights

- **Long-term program objective:** Increase number of private sector high-tech jobs
- **Program design:** Adopted a research-capacity building model
- **Finding:** Recent public frustration resulting from longer-than-expected time horizon and type of economic impact
- **Recommendation:** Shift program balance to provide greater support for tech commercialization and early-stage companies



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# Where to Target USTAR Efforts



# Detailed recommendation 1:

## Create USTAR New Ventures Program

- **Challenge:** Utah startups face critical capital and business assistance challenges
- **Objective:** Scaled up and more effective support for new ventures and growth
- **Approach:**
  - Funds both targeted entrepreneurial support services and creation of regional pre-seed funds, with match
  - Study of best implementation method in Utah (typically non-profit intermediary)
  - Should combine resources and activities of TCIP and TOIP in a single program
- **Best Practice Model:**
  - Ohio Third Frontier Entrepreneurial Signature Program
  - \$42M/year

## Detailed recommendation 2:

# Create USTAR Industrial Partnerships Program

- **Challenge:** University-industry connection and technical assistance for commercialization
- **Objective:** Provides funding, matched by participating companies, for corporate sponsored research projects at any Utah college or university
- **Approach:**
  - Open to all Utah companies
  - USTAR identifies subject matter experts at IHE
  - Company and faculty develop proposal
  - Competitive awards made via external peer review
- **Best practice model:**
  - Maryland Industrial Partnership Program
  - \$2M/year program; avg \$100K awards

# Detailed recommendation 3.1:

Align future researcher recruitment with priority economic sectors; provide more narrowly defined support

- **Challenge:** Original approach not well aligned with economic development strategy
- **Objective:** Use USTAR money for very high impact, strategic recruitments
- **Approach:**
  - Defined criteria for selecting research field with industry and USTAR input;
  - Evaluations of candidate faculty by peer review against these criteria;
  - USTAR involved in decision making process;
  - Universities responsible for salary; USTAR contributes start-up package
- **Models:**
  - Georgia Research Alliance Eminent Scholars Program
  - \$10.5M/year

## Detailed recommendation 3.2: Develop USTAR University Seed Fund

- **Challenge:** Limited connections and cost of bidding on major grants
- **Objective:** USTAR should incentivize connections between existing and new researchers, across disciplines, and across institutions (in/outside the state):
- **Approach:**
  - Convene events to bring together researchers across disciplines to exchange ideas leading to future collaborations and projects
  - Provide competitive small grants (\$30K-\$50K), with institutional match, to help researchers to develop preliminary data or other specific activities to go after larger Federal or industrial R&D opportunities
  - Focused on research with high commercialization potential
- **Models:**
  - Georgia Research Alliance
  - \$1M/year

# Detailed recommendation 4:

## Revamp USTAR metrics

- **Challenge:** Frustration over misalignment between expectations and program impacts to date
- **Objective:** Develop realistic metrics aligned with both program goals and program structure
- **Approach:**
  - “Activity” indicators
  - Short-term “output” indicators (3-5 years)
  - Long-term “output” indicators (10-15 years)

# Recommended USTAR Metrics

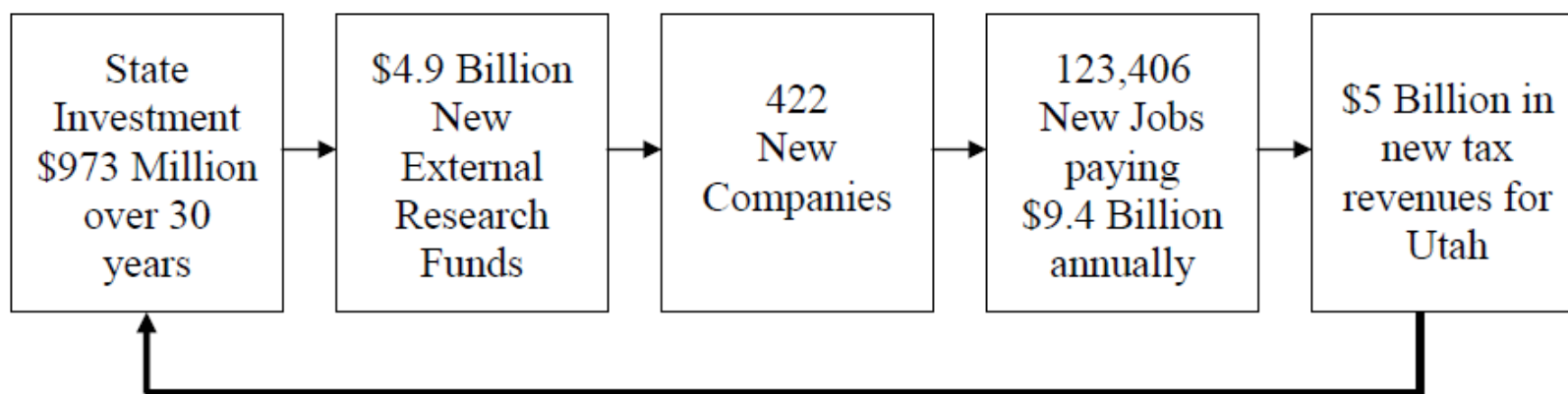
Gap	Recommendation	Activities	Short-term Outputs	Long-term Outputs
Industry-University Linkages	Industrial Partnerships Program	Companies Assisted Projects Awarded	Solutions Found Follow-on Investment	New Sales/Revenue New Direct Jobs Average Wage
Limited Risk Capital	New Ventures Program	# of Companies Assisted # of Companies Awarded Pre-Seed Investment	Follow-On Investment	New Sales/Revenue New Direct Jobs Average Wage
Managerial Talent				
Research Capacity Building	Research Capacity Building	Faculty Hired Collaborations Infrastructure	Leveraged Funding Patents/Licenses Publications	University Ranking Research Jobs Average Wage

# Estimating Program Impacts

## USTAR: 2005 Prospectus Projections

### Projected Impacts over 30 Years:

#### USTAR Return on Investment



#### Projected USTAR Economic Impacts by Year (2005 Prospectus)

Program Year	Cumulative State Funding (Millions)	Annual State Funding (Millions)	Utah Jobs	Employment Earnings (Millions)	State Taxes (Millions)
5 (FY 2010)	\$107.0	\$26.5	3,036	\$56.7	\$5.4
10 (FY 2015)	\$247.9	\$29.3	6,761	\$179.2	\$14.4
20 (FY 2025)	\$575.0	\$35.7	35,071	\$1,816.9	\$145.4
30 (FY 2035)	\$973.8	\$43.5	123,406	\$9,357.9	\$748.8

# Entrepreneurial Signature Program

Pre-Seed Investments 2006-14 (nearly 10 years)

**287 companies**  
\$134M total invested  
(~\$450M total program cost)

**2,130**

New  
Jobs

**\$1.3B**

Follow-on  
Equity

**\$833M**

Product  
Sales / Rev.

Eminent Scholars Program  
1993-2014 (20 years)



Georgia Research Alliance

**\$180M**

(\$10M annually) 62 Eminent Scholars

**1,500**

Research  
Jobs

**\$2.6B**

Leveraged  
Federal  
funding

**179**

Patents  
Awarded



# Thank You

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